

2005-04-29 14:00:00

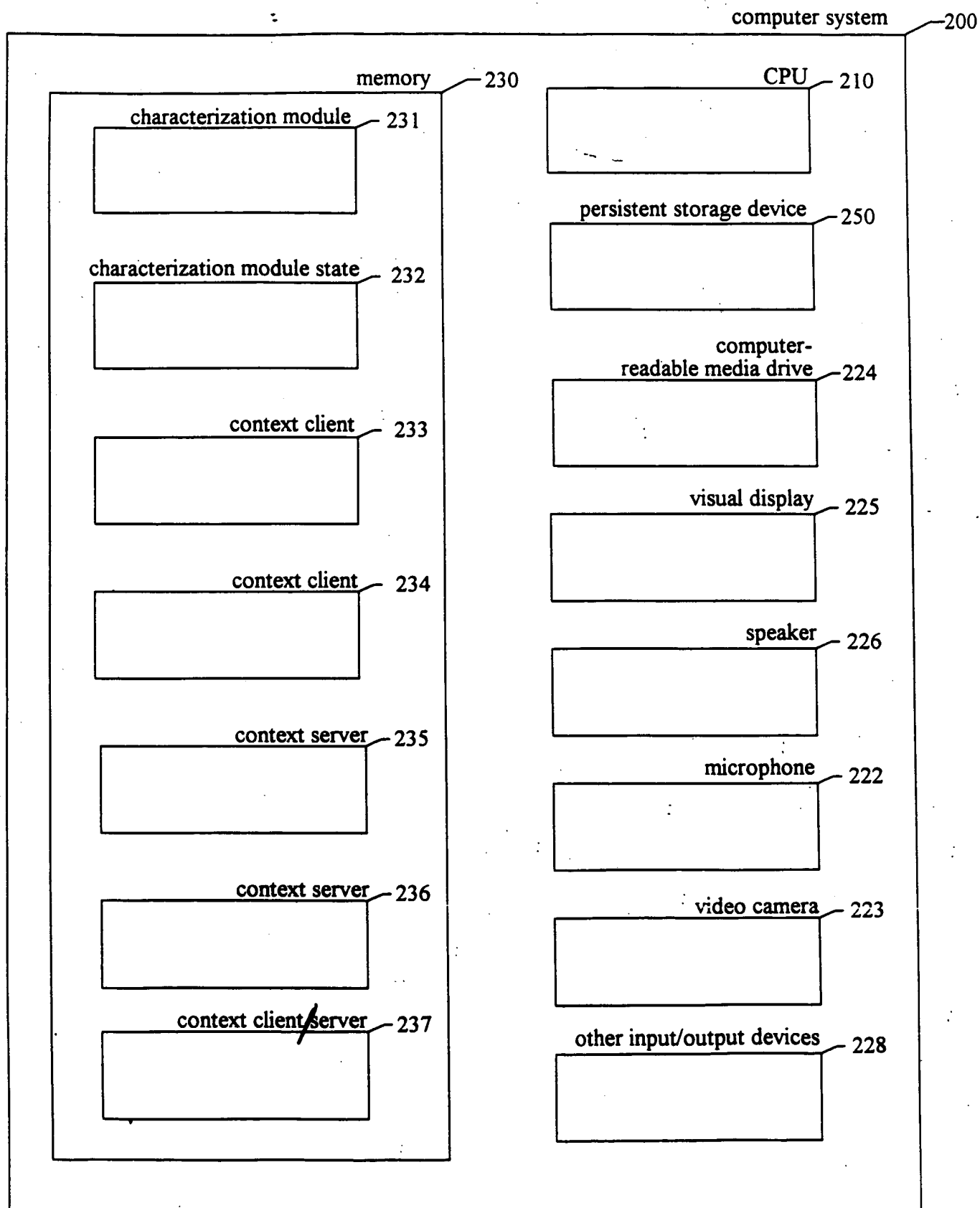
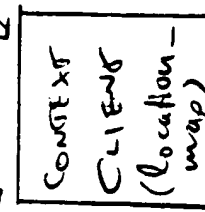
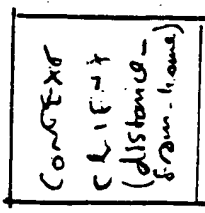
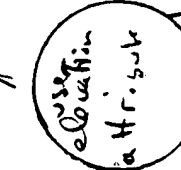
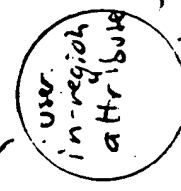
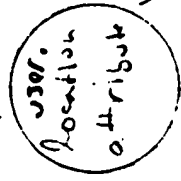
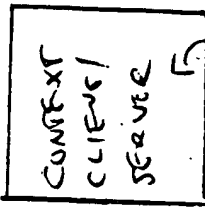
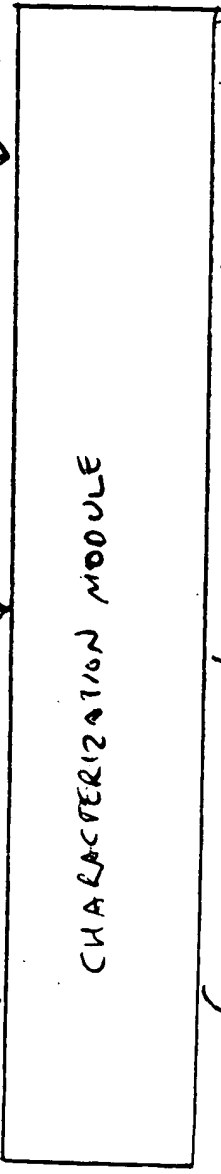
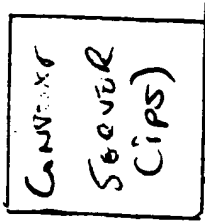
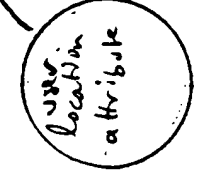
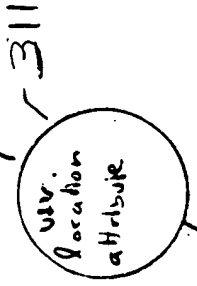
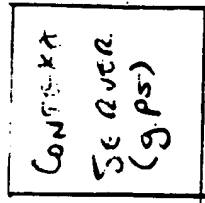


Fig. 2

310 320



340

350

FIG 3

300

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reg. on-
line

03/15/00 8:28 PM

400

context server table

context server name	version	installation date	filename	request handler
gps	1	2/10/2000	gps.exe	(reference)
ips	1	2/21/2000	ips.exe	(reference)
location region analysis	1	2/10/2000	l r a.exe	(reference)

FIG 4

attribute instance table

attribute name	context server name	value	uncertainty	timestamp	units	number of context clients consuming
user.location	gps	47° 38.73' N, 122° 18.43' W	0° 09'	13:11:04.023 2/22/2000	degrees/minutes	2
user.location	ips	47° 38.745' N, 122° 18.424' W	0° 021'	13:11:01.118 2/22/2000	degrees/minutes	2
user.elevation	ips	22	5	13:11:01.118 2/22/2000	meters	1
user.in_region	location_region_analysis	none	none	none	none	0

FIG 5

600

context client table

context client name	message handler
location map	(reference)
distance from home	(reference)
region analysis	(reference)

FIG 6

attribute instance table

attribute name	context server name	value	uncertainty	timestamp	units	number of context clients consuming
user.location	gps	47° 38.73' N, 122° 18.43' W	0° .09'	13:11:04.023 2/22/2000	degrees/minutes	2
user.location	ips	47° 38.745' N, 122° 18.424' W	0° .021'	13:11:01.118 2/22/2000	degrees/minutes	2
user.elevation	ips	22	.5	13:11:01.118 2/22/2000	meters	1
user.in_region	location_region_analysis	none	none	none	none	1

FIG 7

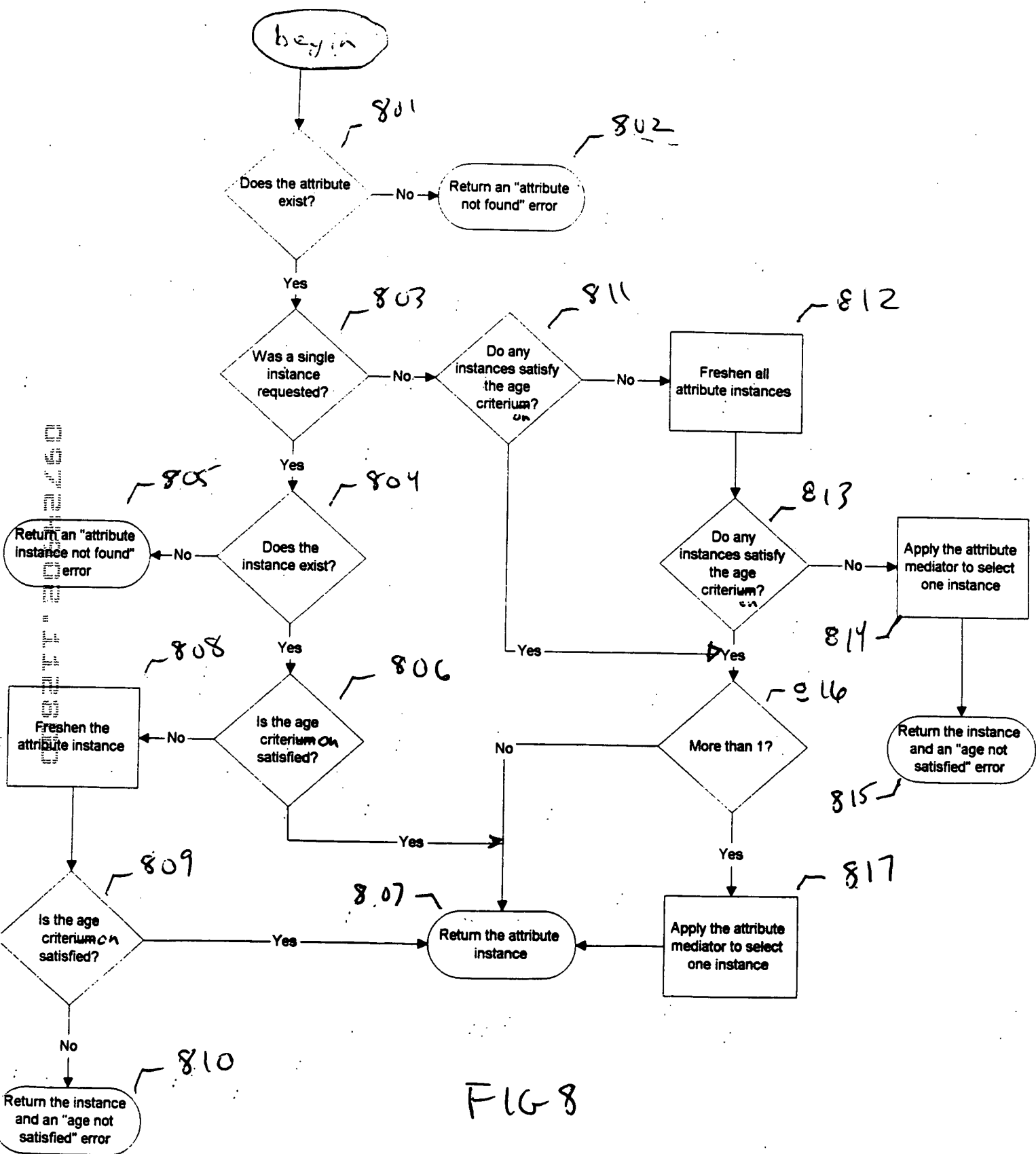


FIG 8

COB

attribute instance table

1000

condition table

03/15/00 9:18 PM

condition monitor table

condition monitor name	context client name	condition name	behavior	frequency	condition last evaluated	trigger handler reference	stopped
region_boundaries_crossed	region_analysis	in_region_true	TRUE or FALSE	30	13:11:29.101 2/22/2000	(reference)	no

FIG 11

condition monitor table

condition monitor name	context client name	condition name	behavior	frequency	condition last evaluated	trigger handler reference	stopped
region_boundaries_crossed	region_analysis	in_region_true	TRUE or FALSE	30	13:11:59.101 2/22/2000	(reference)	yes

FIG 12

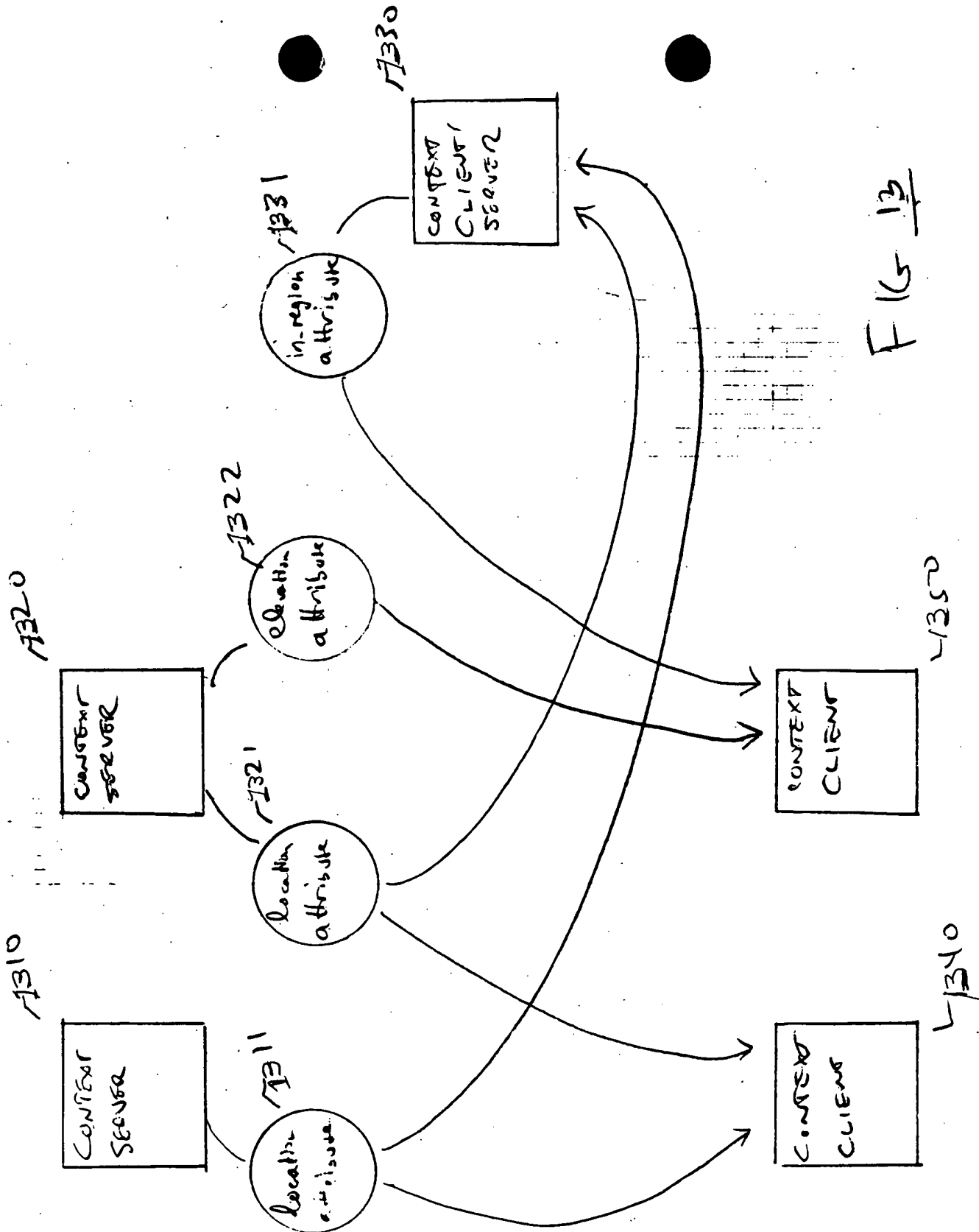


FIG 13

1401 ~
1402 ~
1403 ~
1404 ~

L 1411

2 1412

Case Study

[illegible]

Person.<name or ID>. (same as User.)

VI.

Platform. (continued)

Environment.

Local.

Place.<place name>. (same as Environment.Local)

Mail.

Phone.

Sound recorder.

Fig. 15

1) User Setting

a) Mental Context

- i) Meaning
- ii) Cognition
 - (1) Divided User Attention
 - (2) Task Switching
 - (3) Background Awareness
- iii) Solitude
- iv) Privacy
 - (1) Desired Privacy
 - (2) Perceived Privacy
- v) Social Context
- vi) Affect

b) Physical Situation

- i) Body
 - (1) Biometrics
 - (2) Posture
 - (3) Motion
 - (4) Physical Encumberment
 - (a) Senses
 - (i) Eyes
 - (ii) Ears
 - (iii) Tactile
 - (iv) Hands
 - (v) Nose
 - (vi) Tongue
 - (b) Workload demands/effects
 - (c) Interaction with computer devices
 - (d) Interaction with people
 - (e) Physical Health
- ii) Environment
 - (1) Time/Space
 - (2) Objects
 - (3) Persons
 - (a) Audience/Privacy Availability
 - (i) Scope of Disclosure
 - (ii) Hardware affinity for privacy
 - (iii) Privacy Indicator for User
 - (iv) Privacy Indicator for Public
 - (v) Watching Indicator
 - (vi) Being Observed Indicator
- (4) Ambient Interference
 - (a) Visual
 - (b) Audio
 - (c) Tactile

2) Computer

a) Power

b) Configuration

i) User Input Systems

- (1) Hand/Haptic
 - (a) Keyboard/Keystrokes
- (2) Voice/Audio
- (3) Eye Tracking
- (4) Cursors
 - (a) Axis
 - (b) Resolution
 - (i) Selection
 - (ii) Invocation
 - (c) Accelerators

ii) Output Systems

- (1) Visual
 - (a) Resolution
- (2) Audio
 - (a) Public/Private
- (3) Haptic

iii) External Resources

- (1) I/O devices
- (2) Connectivity

c) Data

- i) Quantity/State
- ii) Urgency/Importance
 - (1) Use of Prominence
- iii) Modality
- iv) Sensitivity/Purpose
 - (1) Privacy Issues
 - (2) Use of Association
 - (3) Use of Safety
- v) Source/Ownership
 - (1) Types
 - (a) User generated
 - (b) Other computers or people
 - (c) Sensor
 - (d) PC State
 - (2) Use of Association

Fig. 16

Fig. 17

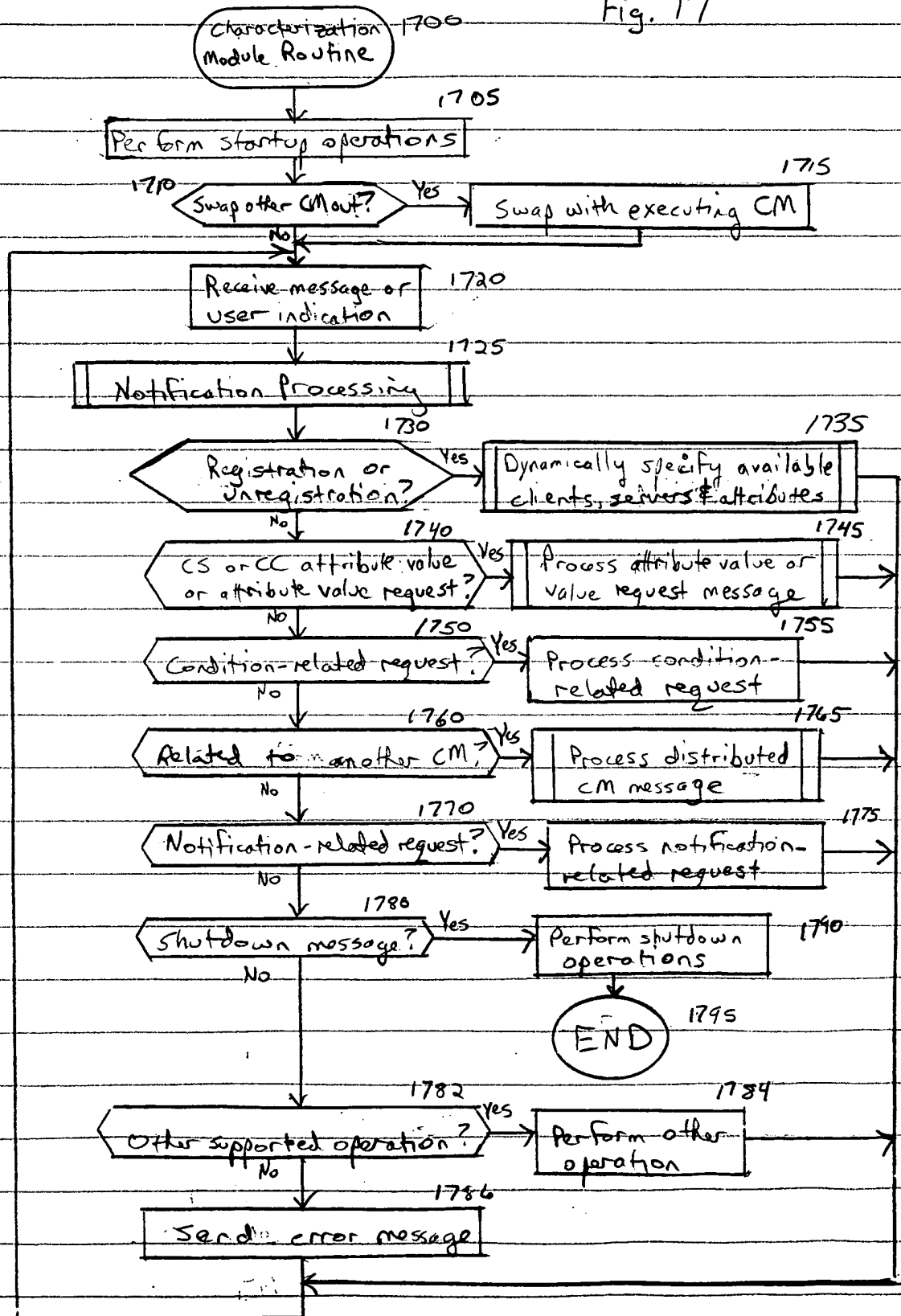


Fig. 18

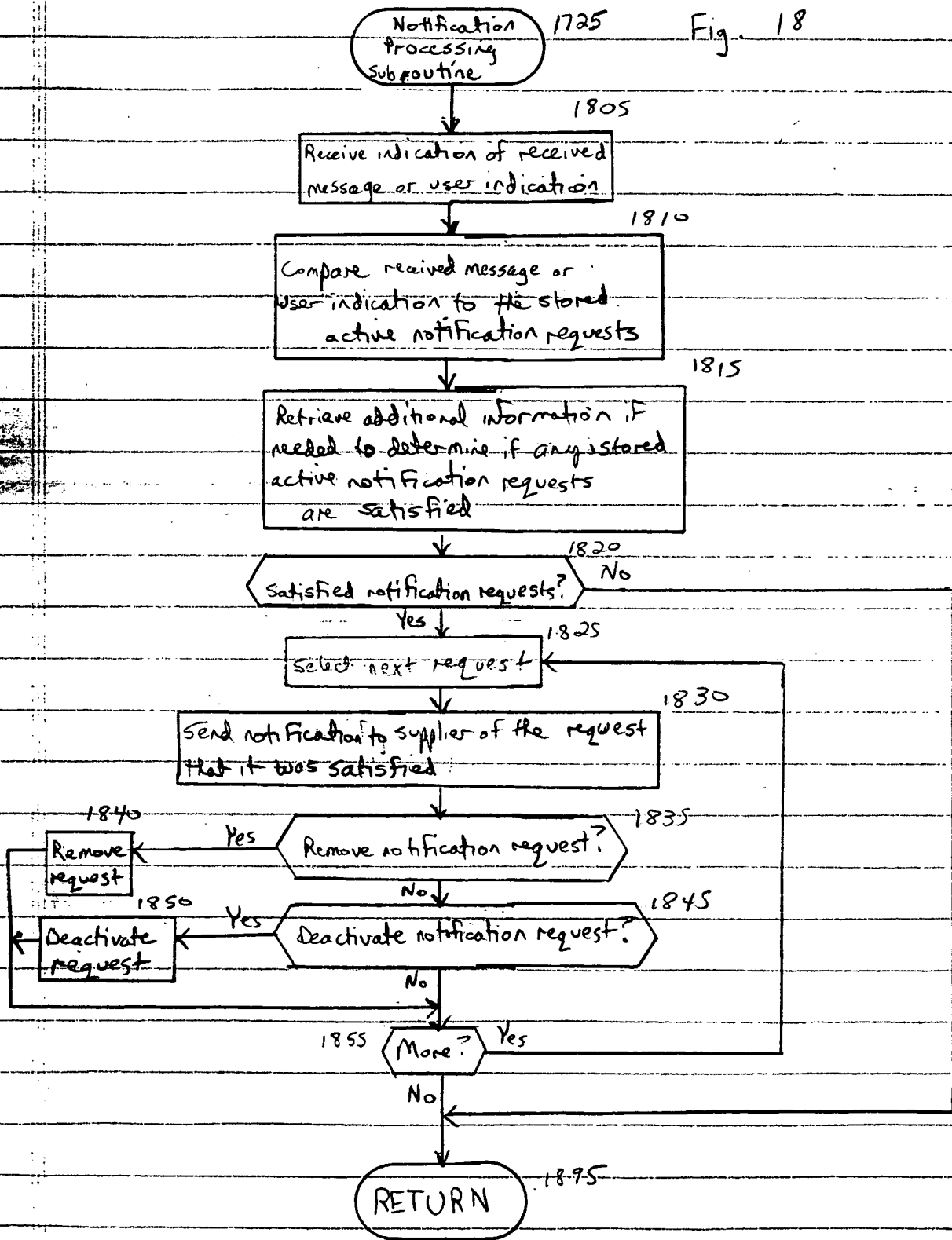


Fig. 19

Dynamically Specify Available
Clients, Servers, & Attributes
Subroutine

1735

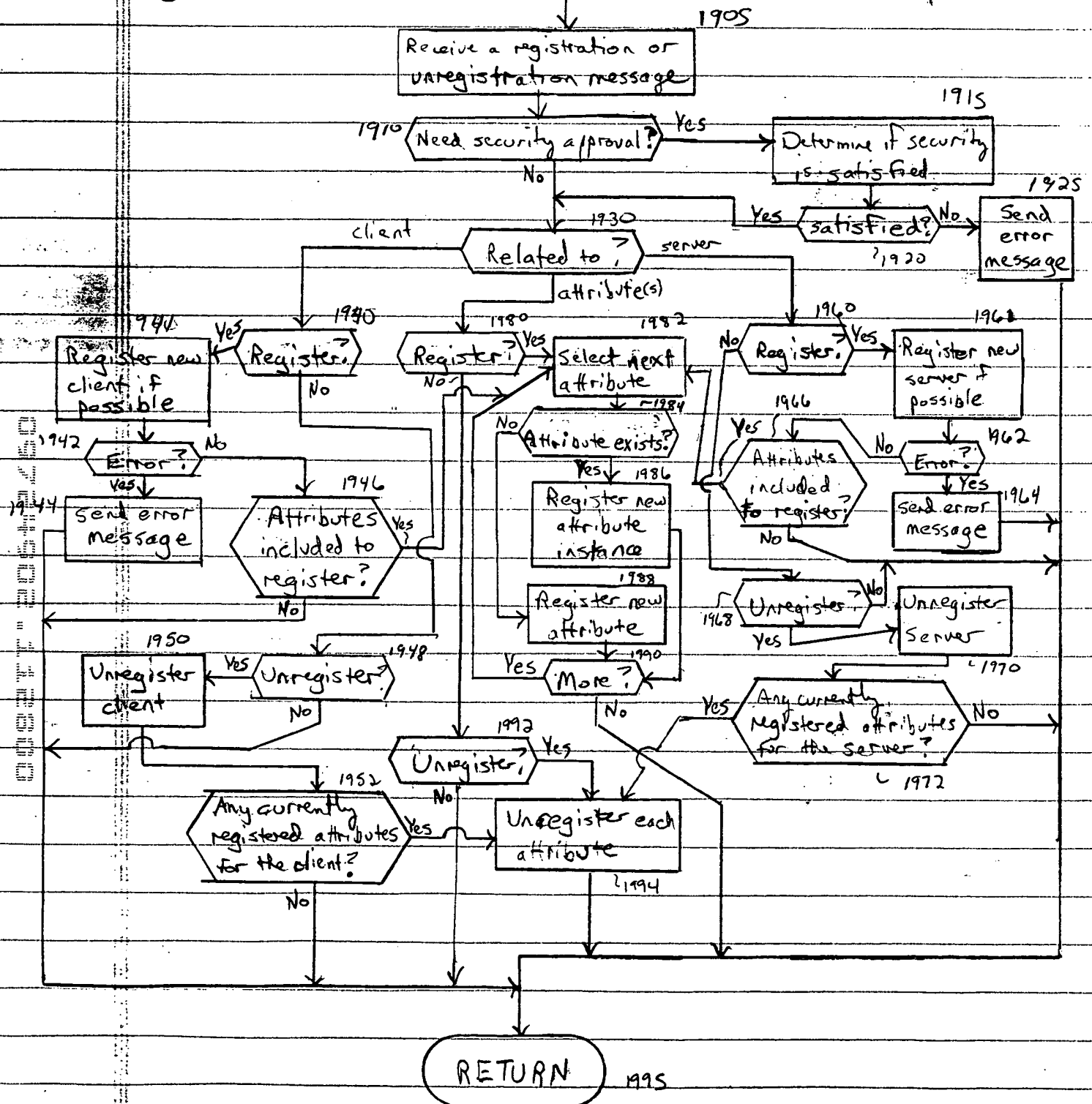
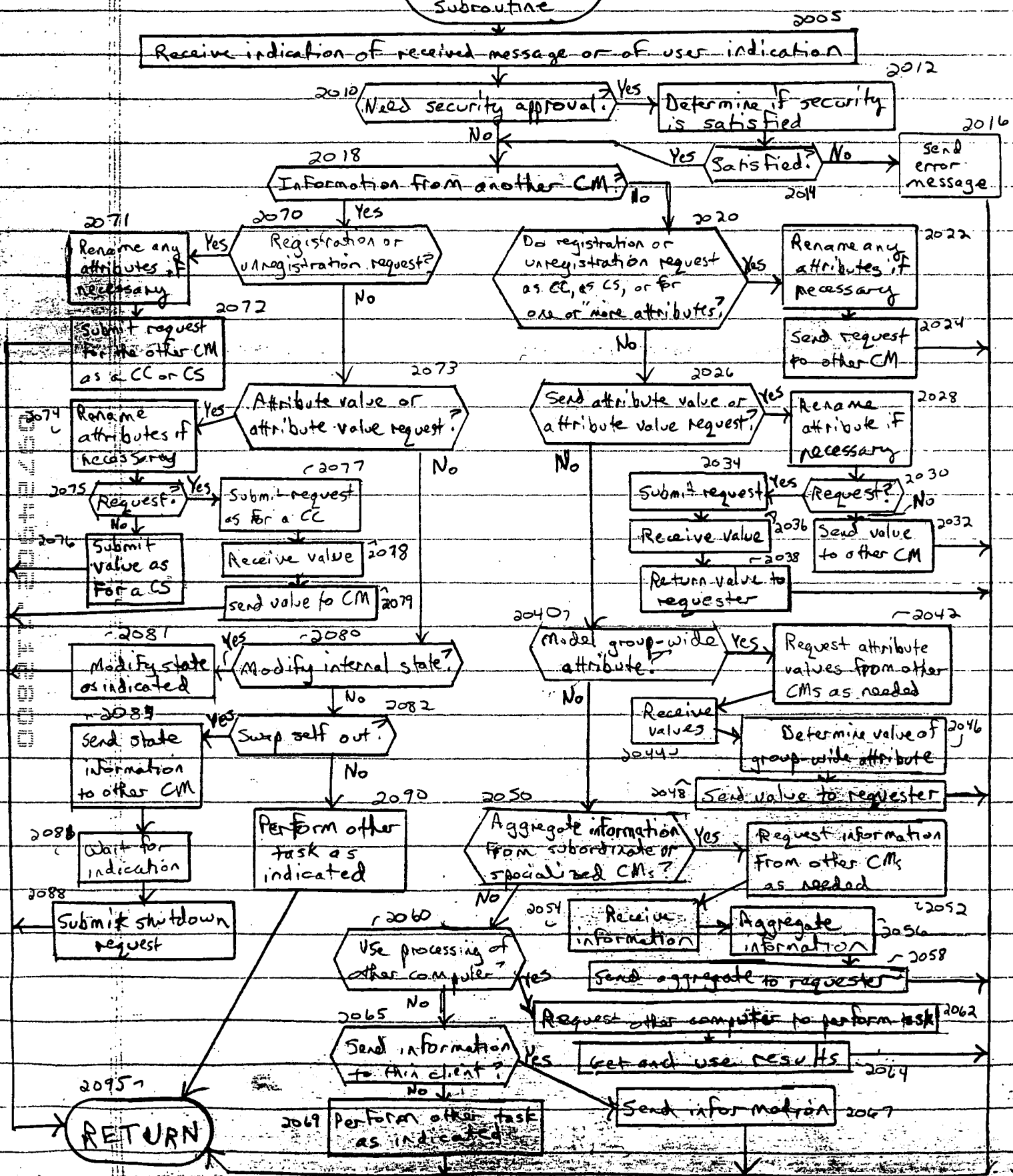


Fig. 20

Process Distributed CM Message Subroutine



1745
Process Attribute Value
On Value Request Message
Subroutine

Fig. 21

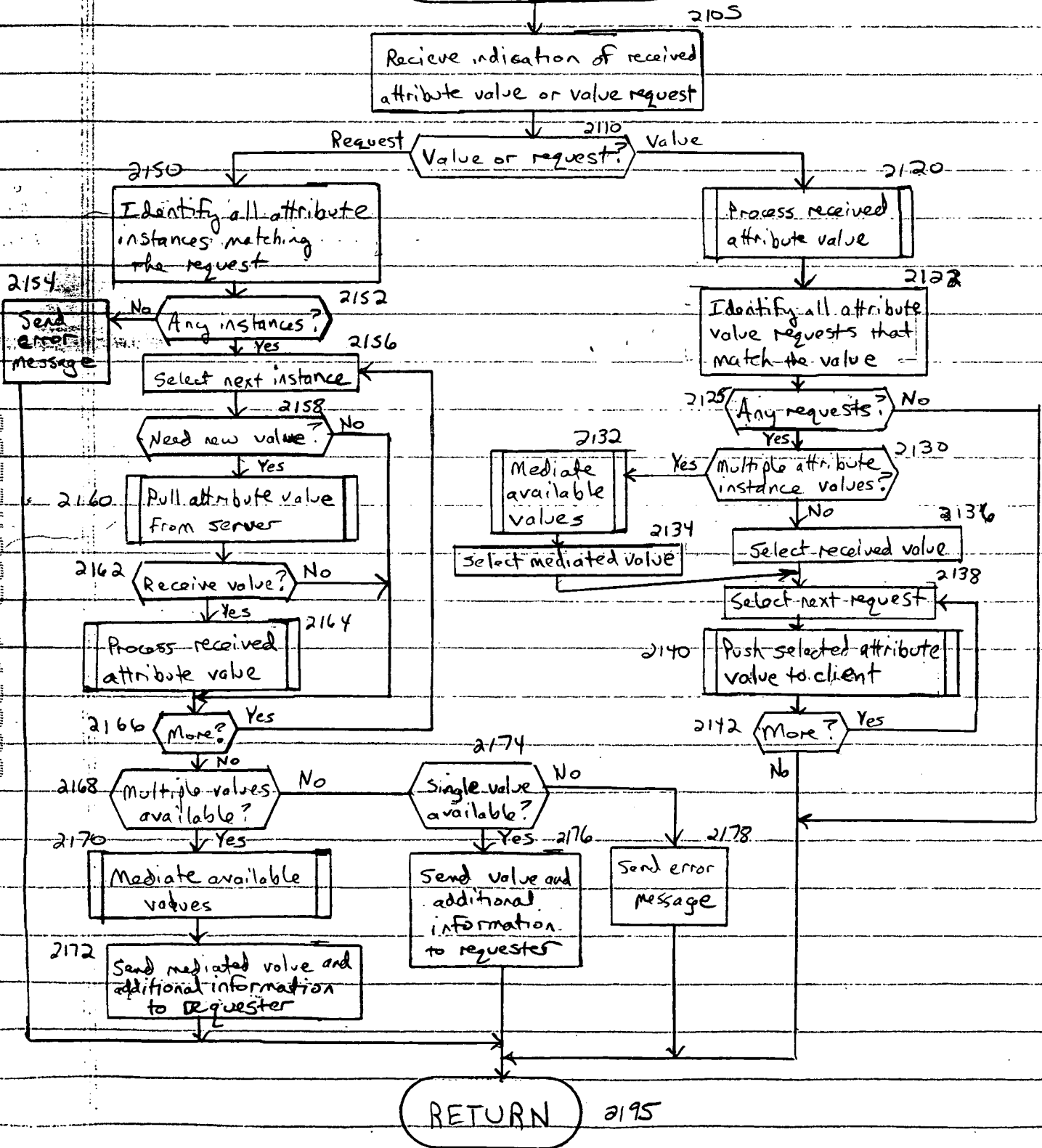
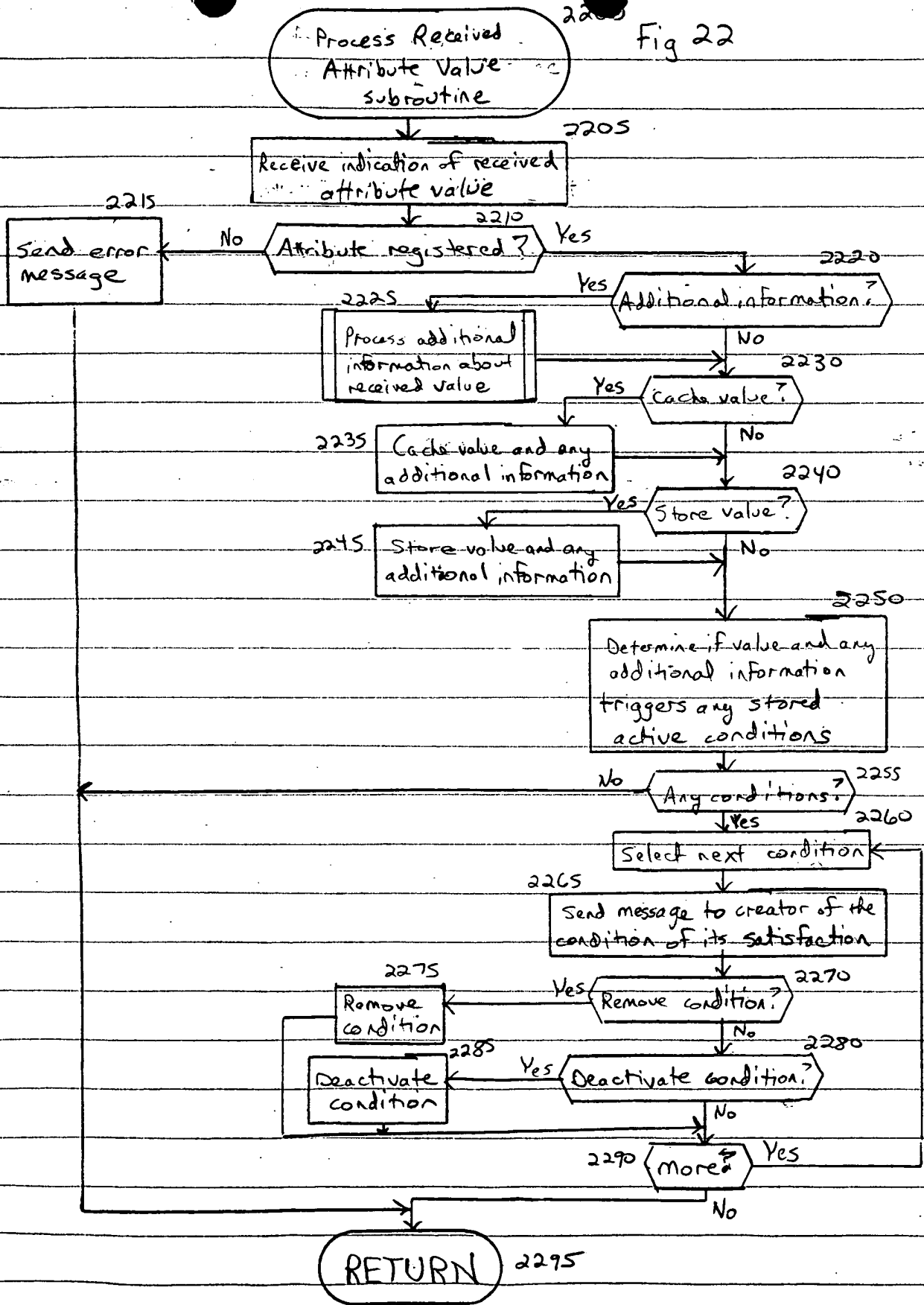
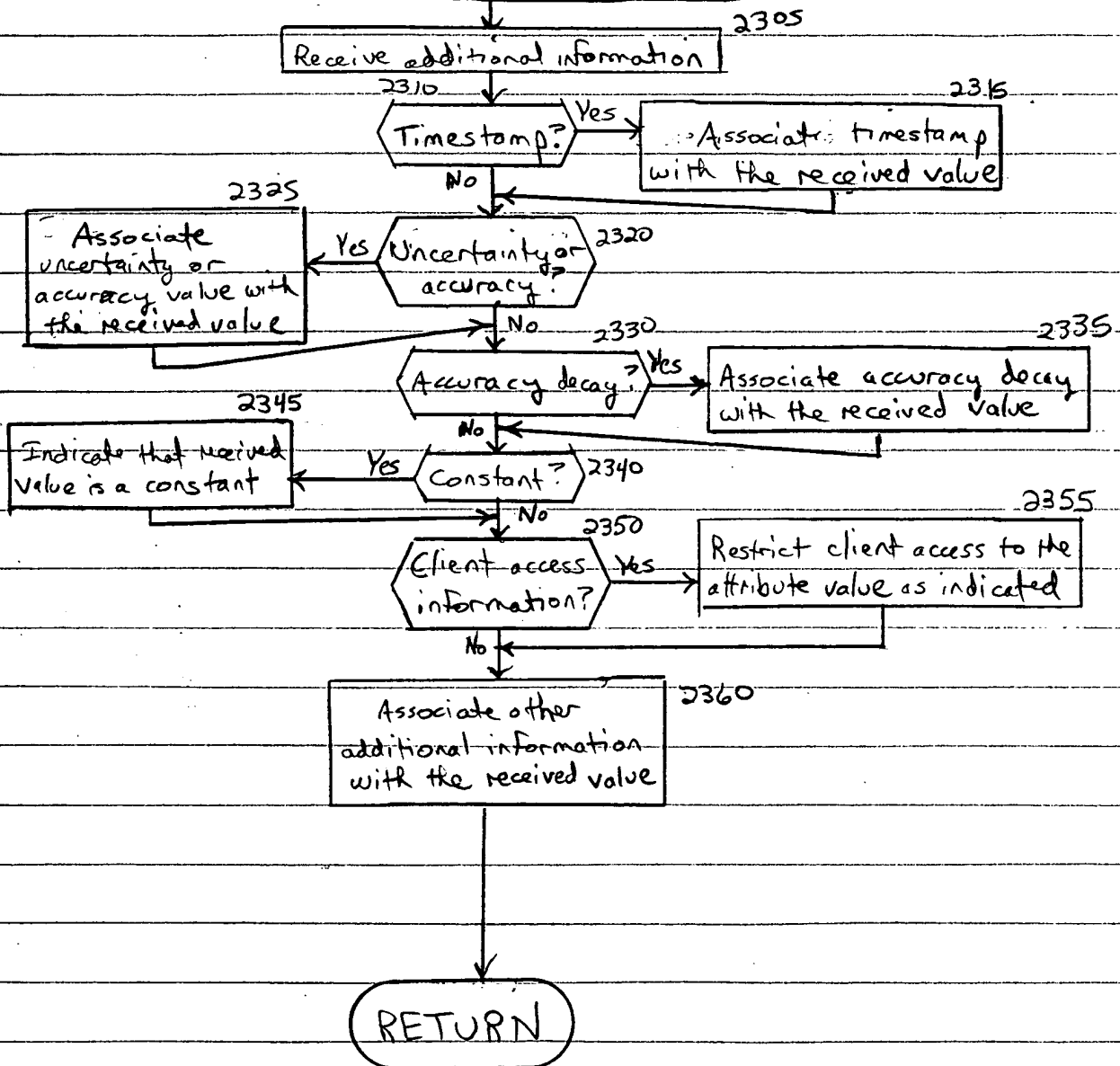


Fig 22



225
Process Additional Information
About Received Value
Subroutine

Fig. 23



2. The all-time best

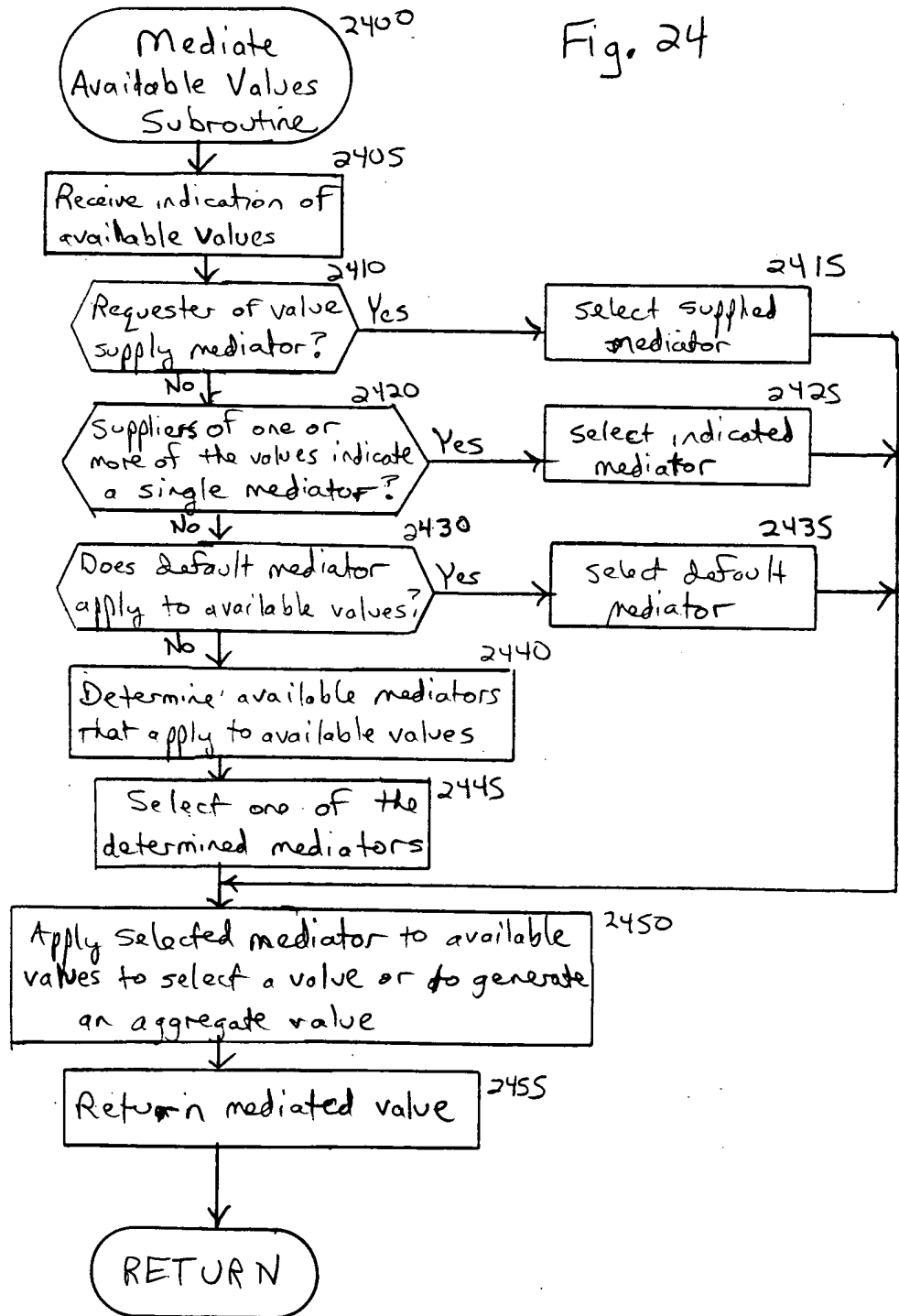


Fig. 25

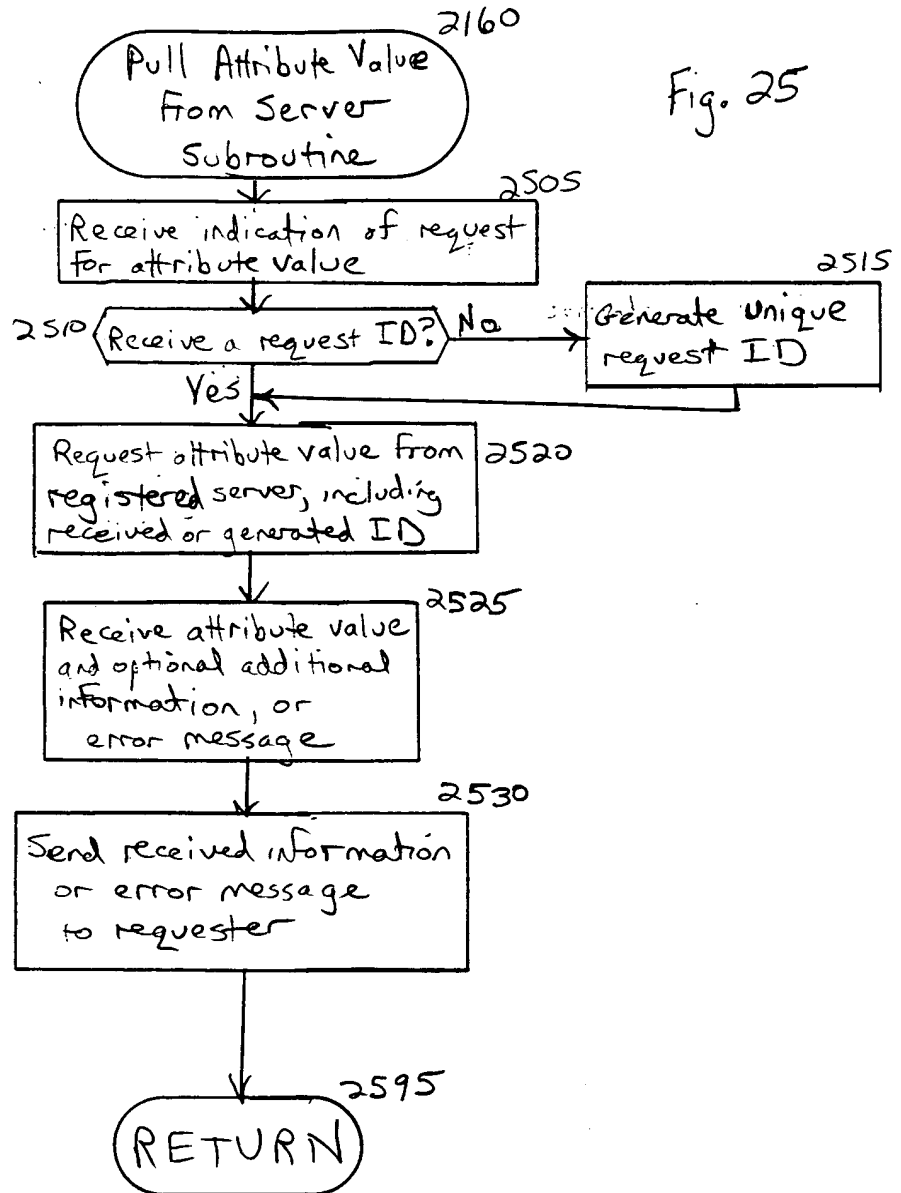
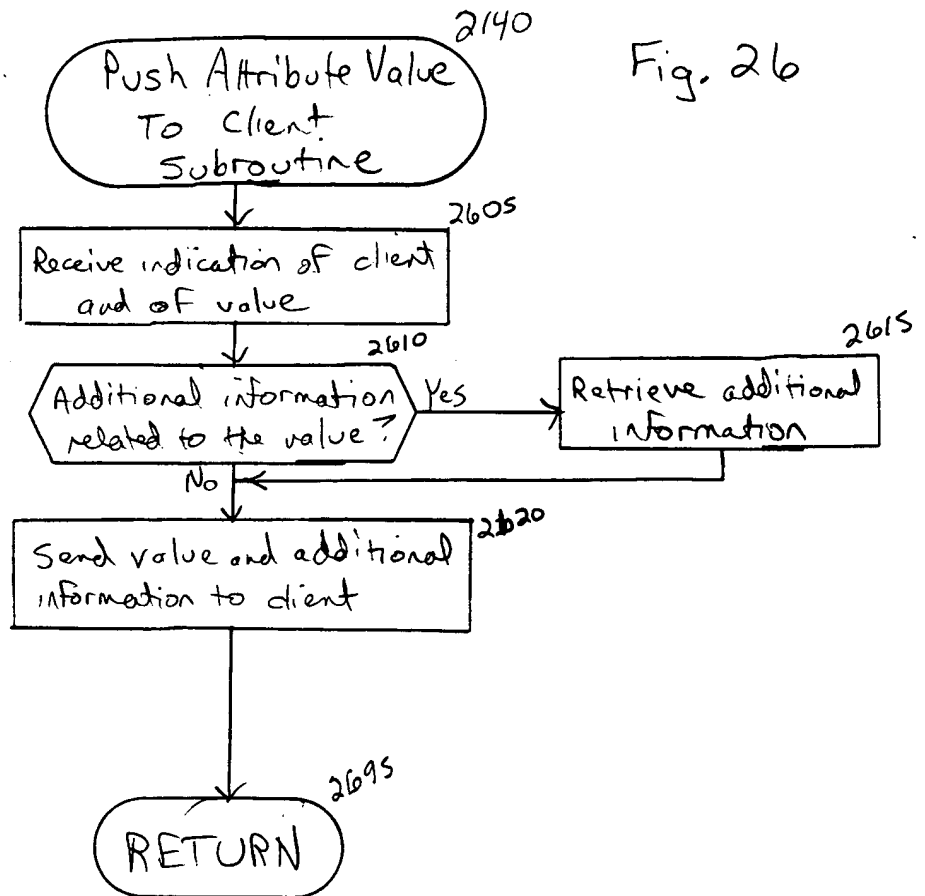
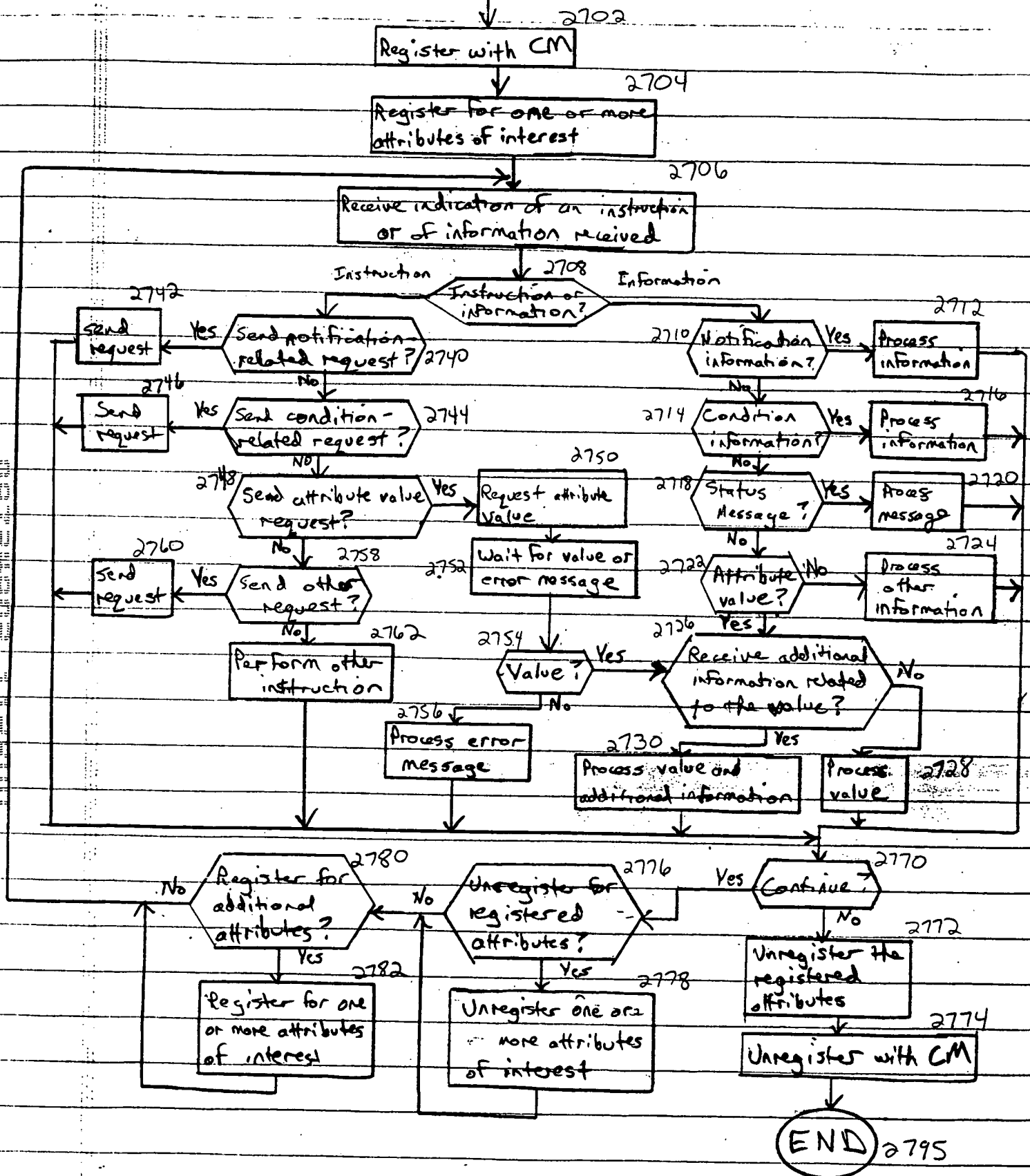


Fig. 26



Context Client Routine 2700

Fig. 27



Context Server Routine 2800

Fig. 28

